

AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): A surface isolation device for isolating a predetermined area of a second surface of a wafer from an etching solution when the etching solution etches a first surface of the wafer to form a plurality of manifolds in the wafer, the surface isolation device comprising:

5 a base for positioning the wafer;

10 a first isolation ring positioned on the base for isolating the predetermined area from the etching solution; and

15 a fixture for fixing the wafer on the base; and
 a second isolation ring, the fixture fixing the second isolation ring on the first surface of the wafer so as to isolate an edge of the wafer from the etching solution;

20 wherein when the fixture fixes the wafer on the base, the wafer adheres to the first isolation ring so as to isolate the predetermined area from the etching solution and the second surface of the wafer faces toward the base and the first isolation ring surrounds the predetermined area.

25 Claim 2 (cancelled).

Claim 3 (currently amended): The surface isolation device of ~~claim 2~~ claim 1 wherein the fixture is a clamp for clamping the wafer on the base.

30 Claim 4 (cancelled).

Claim 5 (currently amended): The surface isolation device of ~~claim 4~~ claim 1 wherein the first isolation ring and the second isolation ring clamp the edge of the wafer to isolate the edge from the etching solution.

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Claim 6 (currently amended): The surface isolation device of ~~claim 4~~ claim 1 further comprising a holder for fixing the second isolation ring, the holder comprising an opening, wherein when the fixture fixes the holder above the wafer, the etching solution is capable of flowing through the opening of the holder onto the first surface of the wafer.

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Claims 7-13 (cancelled).

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Claim 14 (original): The surface isolation device of claim 1 wherein the base is a hollow cylinder, the fixture being placed on the second surface of the wafer for pushing the wafer toward the hollow cylinder so that the wafer is fixed on the hollow cylinder, the hollow cylinder comprising a lip surrounding a bottom end of the hollow cylinder, the first isolation ring being placed on the lip and adhering to the first surface of the wafer.

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Claim 15 (original): The surface isolation device of claim 1 wherein when the fixture fixes the wafer on the base, an external force is applied to the first isolation ring and leads to distortion of the first isolation ring, causing the wafer to adhere to the first isolation ring.

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Claim 16 (original): The surface isolation device of
claim 1 wherein the wafer is a silicon wafer.

5 Claim 17 (original): The surface isolation device of
claim 1 wherein when the etching solution etches the
first surface of the wafer, a plurality of chambers
are formed in the wafer, each of the chambers
connected to a corresponding manifold.

10 Claim 18 (new): A surface isolation device for isolating
a predetermined area of a second surface of a wafer
from an etching solution when the etching solution
etches a first surface of the wafer to form a
plurality of manifolds in the wafer, the surface
isolation device comprising:

15 a base for positioning the wafer, the base
comprising a first side and a second side;
a first isolation ring positioned on the base for
isolating the predetermined area from the
etching solution, the first isolation ring being
positioned on the first side of the base;
20 a second isolation ring positioned on the second
side of the base for isolating a predetermined
area of a second surface of a second wafer from
the etching solution; and
25 a fixture for fixing the wafer on the base;
wherein when the fixture fixes the wafer on the
base, the wafer adheres to the first isolation
ring so as to isolate the predetermined area from
the etching solution and the second surface of
30 the wafer faces toward the base and the first
isolation ring surrounds the predetermined area;

wherein the second surface of the wafer facing toward the first side of the base when the fixture fixes the wafer on the first side of the base, and the second surface of the second wafer facing toward the second side of the base when the fixture fixes the two second wafer on the second side of the base.

Claim 19 (new): The surface isolation device of claim
10 18 further comprising a third isolation ring and a
fourth isolation ring, the fixture fixing the third
isolation ring and the fourth isolation ring on the
second surface of the wafer and the second surface
of the second wafer to isolate an edges of the wafer
15 and an edge of the second wafer the etching solution,
respectively.

Claim 20 (new): The surface isolation device of claim
20 19 wherein the first isolation ring and the third
isolation ring clamp the edge of the wafer fixed on
the first side of the base to isolate the edge of
the wafer from the etching solution, and the second
isolation ring and the fourth isolation ring clamp
25 the edge of the second wafer fixed on the second side
of the base to isolate the edge of the second wafer
from the etching solution.

Claim 21 (new): The surface isolation device of claim
30 19 further comprising a first holder and a second
holder, the third isolation ring being fixed on the
first holder, the fourth isolation ring being fixed
on the second holder, each of the two holders having

an opening, wherein when the fixture fixes the two holders on the two wafers, the etching solution is capable of flowing through the openings of the two holders onto the first surfaces of the two wafers.

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Claim 22 (new): A surface isolation device for isolating a predetermined area of a second surface of a wafer from an etching solution when the etching solution etches a first surface of the wafer to form 10 a plurality of manifolds in the wafer, the surface isolation device comprising:

a base for positioning the wafer;
a first isolation ring positioned on the base for isolating the predetermined area from the etching solution; and
15 a fixture for fixing the wafer on the base, the fixture comprising an attachment ring and an upper cover;
wherein when the fixture fixes the wafer on the base, the wafer adheres to the first isolation ring so as to isolate the predetermined area from the etching solution;
20 wherein the base comprises a tank for placing the wafer, the first isolation ring, and the attachment ring, the attachment ring being placed between the wafer and the upper cover, the upper cover being used for pushing the attachment ring toward the wafer so that the wafer adheres to the first isolation ring, the upper cover 25 having an opening to allow the etching solution to flow onto the first surface of the wafer.
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Claim 23 (new): The surface isolation device of claim
22 wherein the upper cover further comprises a first
screw thread formed on an inner surface of the upper
cover for rotatably engaging with a second screw
5 thread on the base so that the upper cover is capable
of pushing the attachment ring toward the wafer.

10 Claim 24 (new): The surface isolation device of claim
22 further comprising a second isolation ring fixed
to the attachment ring, and when the upper cover
pushes the attachment ring toward the wafer, the
second isolation ring adheres to the first surface
of the wafer to isolate an edge of the wafer from
the etching solution.

15 Claim 25 (new): The surface isolation device of claim
18 wherein when the fixture fixes the wafer on the
base, an external force is applied to the first
isolation ring and leads to distortion of the first
isolation ring, causing the wafer to adhere to the
20 first isolation ring.

25 Claim 26 (new): The surface isolation device of claim
22 wherein when the fixture fixes the wafer on the
base, an external force is applied to the first
isolation ring and leads to distortion of the first
isolation ring, causing the wafer to adhere to the
first isolation ring.